

TABLE A
Sediments Total Metals Analytical Summary
Concentrations in milligrams per Kilogram (mg/kg) parts per million (ppm)

Field Sample ID: Location:	Superfund Chemical Data Matrix (SCDM) Non Cancer Risk Soil Exposure Pathway (mg/kg)	Superfund Chemical Data Matrix (SCDM) Non Cancer Risk Human Food Chain (mg/kg)	UASE030 MH35L2 Lower Ross Basin Drainage upstream of Grand Mogul Mine (Background)	UASE059 MH35L3 Cement Creek at the toe of Grand Mogul Mine	UASE023 MH35L0 Cement Creek upstream of Mogul North Mine	UASE021 MH35K8 Cement Creek downstream of Mogul North Mine	UASE020 MH36L3 Cement Creek upstream of Mogul Mine	UASE018 MH35H Cement Creek upstream of wetland that contains Mogul Mine drainage	UASE017 Mh36I0 Cement Creek downstream of wetland that channels Mogul Mine drainage	UASE016 MH35H1 Cement Creek upstream of Red and Bonita Mine	UASE014 MH35G9 Cement Creek downstream of Red and Bonita Mine
Analytes											
Dilution Factor	-	-	1	1	1	1	1	1	1	1	1
Aluminum	-	-	15700	986	3020	13,600	12,200	13100	8,100	8140	3850
Antimony	31	.54	1.2 U	23.3 J	1.7 J	1.3 U	1.4 UJ	1.3 UJ	1.3 UJ	3.2 UJ	3 UJ
Arsenic	23	.41	31.5 J+	969 J+ (556.9) ★	45.6 J+	25.8 J+	36.8 J	28.1 J	17.7 J	57.5 J	24.5 J
Barium	5,500	9.5	94.2 J+	37.1 J+	264 J+ (66.2)	74.3 J+	147	90.8	121	200	36.1
Beryllium	160	2.7	1.4 J+	3.0 UJ	1.3 J+	1.3 J+	1.4 J+	0.73 J+	0.63 U	1.6 UJ	1.5 UJ
Cadmium	39	.68	10.4 J	3.0 J	6 J	6.0 J	7.4	2	0.63 U	1.6 UJ	1.5 UJ
Calcium	-	-	1990	2,980 U	718 U	1,310	1,110	2020	1,740	1940	1500 U
Chromium	230	4.1	8	11.3	6.2	7.1	9.6	9	6.9	11.9 J	6.1 J
Cobalt	-	-	20.5	3.0 U	15.3	12.3	12.9	11.2	13.2	23.7	3 U
Copper	-	-	1240 J+	235 J+	424 J+	516 J+	546	193	63.6	250 J	147 J
Iron	-	-	71200	273,000 ☆	5150	37,200	31,900	35000	38,100	65400	218000 ☆
Lead	-	-	1480 J	1,100 J	2030 J	481 J	779 J	543 J	379 J	1460	773
Magnesium	-	-	11500	2,980 U	1090	7,200	-	8970	5,830	2260	1500 U
Manganese	11,000	190	6600	304	7960	4,710	5130	3650	1,420	2360 J	489 J
Nickel	1,600	27	11.7 J	3.0 UJ	7.7 J	10.3 J	6.9	5.2	6.3	12.3 J	2 J
Potassium	-	-	642 J+	2,980 U	718 U	664 U	648 J+	501 J+	440 J+	1580 U	1500 U
Selenium	390	6.8	3 U	15 U	3.6 U	3.3 U	3.5 UJ	3.3 UJ	3.1 UJ	7.9 UJ	7.5 UJ
Silver	390	6.8	1.2 J	13.2 J ★	11.8 J ★	2.0 J	2.8 J+	1.7 J+	1.3 J+	1.6 UJ	8.5 J ★
Sodium	-	-	600 UJ	2,980 U	718 UJ	664 UJ	29.5 J+	21.9 J+	30.8 J+	1580 U	1500 U
Thallium	-	-	0.44 J- (0.82)	0.19 J-	0.77	0.41 J-	0.40 J+	0.4 J+	0.30 J+	1.6 UJ	1.5 UJ
Vanadium	5,500	9.5	40.9	57.1	27.8	32.5	33.2	32.2	46.3	62	34
Zinc	23,000	410	1500 J	524 J	614 J	651 J	1,990 J	332 J	184 J	378 J-	465 J-

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D Diluted
mg/kg milligram per kilogram
BOLD Background value
(XX) Revised as per EPA 540-F-94-028, Using Qualified Data to Document an Observed Release and Observed Contamination
XXX Analytical result exceeds a benchmark
★ Elevated Concentration (concentration is > 3X background or 5X blank, but not greater than a SCDM benchmark)
★ Elevated Concentration (concentration is > 3X background and greater than a SCDM benchmark)

Sources: EPA 2008 (CLP limits); EPA 2004 (SCDM); EPA 2008 (Low Concentration Detection Limits), EPA 1996 (Using Qualified Data)

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Sample ID: Location:	Superfund Chemical Data Matrix (SCDM) Non Cancer Risk Soil Exposure Pathway (mg/kg)	Superfund Chemical Data Matrix (SCDM) Non Cancer Risk Human Food Chain (mg/kg)	UASE030 MH35L2 Lower Ross Basin Drainage upstream of Grand Mogul Mine (Background)	UASE013 MH35H4 Cement Creek upstream of the confluence with the North Fork of Cement Creek	UASE009 MH35H2 Cement Creek downstream of the confluence with the North Fork of Cement Creek	UASE008 MH35J0 Cement Creek upstream of the American Tunnel	UASE006 MH35I6 Cement Creek downstream of the American Tunnel and upstream of the confluence with the South Fork of Cement Creek	UASE004 MH35I7 Cement Creek downstream of confluence with the South Fork of Cement Creek	UASE058 MH35H6 Cement Creek upstream of the confluence with Dry Gulch drainage	UASE056 MH35H5 Cement Creek downstream of the Dry Gulch drainage	UASE050 MH35G4 Cement Creek downstream of the Mammoth Tunnel	UASW049 MH35G3 Cement Creek upstream of the confluence with Fairview Gulch and the Elk Tunnel discharge	UASW047 MH35G2 Cement Creek downstream of the Elk Tunnel and Fairview Gulch
Dilution Factor	-	-	1	1	1	1	1	1	1	1	1	1	1
Aluminum	-	-	15700	4,520	4,940	13700	7030	9570	5750	6,730	6,640	7840	6,160
Antimony	31	.54	1.2 U	2.8 UJ	2.7 UJ	1.7 UJ	2.8 J	1.3 UJ	2.7 UJ	2.2 UJ	1.6 UJ	1.3 UJ	1.6 U
Arsenic	23	.41	31.5 J+	20.5 J	15.2 J	33.3 J	50.2 J	20.3 J	35.6 J	20.3 J	34.7 J	37.7 J	24.3 J
Barium	5,500	9.5	94.2 J+	61.9	71.6	92.7	146	97.3	85.9	142	250 J	95.5 J	226 J
Beryllium	160	2.7	1.4 J+	1.4 UJ	1.4 UJ	1.1 J+	0.95 U	0.65 U	1.4 UJ	1.1 UJ	0.81 U	0.64 U	0.78 U
Cadmium	39	.68	10.4 J	1.4 UJ	1.4 UJ	1.3 J	2.9	0.9	2.7 J	1.1 UJ	2.7 J	17.5 J	0.78 U
Calcium	-	-	1990	1,410 U	1,370 U	1660	1420	1530	1370 U	1,100 U	1,050	1120	867
Chromium	230	4.1	8	4.3 J	6.4 J	7.6 J	8.4	7	8 J	6.4 J	9.9	7.9	6.9
Cobalt	-	-	20.5	6.0	6.8	16.5	3.9	11.8	4.7	3.2	6.4 J	9.3 J	2.9 J
Copper	-	-	1240 J+	84 J	124 J	209 J	279	86.5	212 J	80.7 J	60 J	159 J	47.8 J
Iron	-	-	71200	203,000 D ☆	159,000 D	37300	11,4000	57,600	266,000 J	144,000	81,600	22,000	57,100
Lead	-	-	1480 J	362	341	711	5720 J	726 J	2050	875	346	847	304
Magnesium	-	-	11500	1,410 U	1,370 U	8730	3810	6070	2370	2,820	3,090	6800	2,360
Manganese	11,000	190	6600	1,910 J	2,010	4130 J	1340	1530	1300 J	659 J	1,380	1200	407
Nickel	1,600	27	11.7 J	1.6 J	2.2 J	8 J	3.8	4.4	2.5 J	2.9 J	4.7 J	7.1 J	2.8 J
Potassium	-	-	642 J+	1,410 U	1,370 U	825 U	1560 J+	751 J+	1370 U	1,250 J+	1,230 J+	636 U	1,350 J+
Selenium	390	6.8	3 U	7.1 UJ	6.9 UJ	4.1 UJ	4.8 UJ	3.3 UJ	6.9 UJ	5.5 UJ	2.0	0.92 J	2.0 J
Silver	390	6.8	1.2 J	2.3 J	4.0 J ☆	2.1 J	12.1 J ★	1.7 J+	5 J ☆	2.3 J	1.7 J+	2.9 J+	1.9 J+
Sodium	-	-	600 UJ	1,410 U	1,370 U	825 U	118 J+	62.3 J+	1370 U	1,100J U	813 U	636 U	782 U
Thallium	-	-	0.44 J- (0.82)	1.4 UJ	1.4 UJ	0.83 UJ	0.6 J+	0.39 J+	1.4 UJ	1.1 UJ	0.90 J+	0.64 U	0.80 J+
Vanadium	5,500	9.5	40.9	29.7	27.3	64.1	47.7	47.3	37.2	62.0	72.2	65.9	56.3
Zinc	23,000	410	1500 J	240 J-	242 J-	289 J-	815 J	261 J	628 J	206 J-	693 J	4910 J ★	131 J

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Sources: EPA 2008 (CLP limits); EPA 2004 (SCDM); EPA 2008 (Low Concentration Detection Limits)

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Analytes								
Dilution Factor	-	-	1	1	1	1	1	1
Aluminum	-	-	15700	5,070	8,860	5710	8220	4,540
Antimony	31	.54	1.2 U	3.8 UJ	1.3 UJ	1.9 UJ	1.5 UJ	1.4 UJ
Arsenic	23	.41	31.5 J+	115 J ★	34.0 J	37.2 J	34.3 J	34.0 J
Barium	5,500	9.5	94.2 J+	80.6 J	191 J	258 J	121 J	422 J ★
Beryllium	160	2.7	1.4 J+	1.9 U	0.66 U	0.93 U	0.74 U	0.71 U
Cadmium	39	.68	10.4 J	1.9 U	2.0 J	0.93 U	0.51	0.71 U
Calcium	-	-	1990	1,900 U	2,020	1040	1040	735
Chromium	230	4.1	8	6.2	7.0	8.4	6.6	5.9
Cobalt	-	-	20.5	2.1 J	5.5 J	4.4 J	5.5 J	3.1 J
Copper	-	-	1240 J+	112 J	76.4 J	59.7 J	55.2 J	29.8 J
Iron	-	-	71200	341,000 ☆	67,200	123000	94600	56,600
Lead	-	-	1480 J	1,700	361	417	334	361
Magnesium	-	-	11500	2,130	5,080	2360	4550	2,810
Manganese	11,000	190	6600	510	804	636	871	711
Nickel	1,600	27	11.7 J	2.3 J	3.6 J	3.6 J	3.9 J	2.8 J
Potassium	-	-	642 J+	1,900 U	933 J+	1410 J+	1060 J+	1,270 J+
Selenium	390	6.8	3 U	0.63 J	1.1 J	2.1 J	0.81 J	1.3 J
Silver	390	6.8	1.2 J	4.1 J+ (2.36)	1.4 J+	2.2 J+	1.4 J+	1.9 J+
Sodium	-	-	600 UJ	1,900 U	657 U	926 U	741 U	714 U
Thallium	-	-	0.44 J- (0.82)	1.9 U	0.66 U	0.99 J+	0.74 U	0.71 U
Vanadium	5,500	9.5	40.9	96.9	45.2	71.7	49.9	34.6
Zinc	23,000	410	1500 J	177 J	478 J	225 J	186 J	136 J

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Analytes											
Dilution Factor	-	-	1	1	1	1	1	1	1	1	1
Aluminum	-	-	15700	4,890	7,040	5,900	7,030	6,860	11600	8000	12300
Antimony	31	.54	1.2 U	1.6 UJ	1.4 UJ	1.6 UJ	1.4 UJ	2.1 UJ	1.7 UJ	1.3 UJ	1.6 UJ
Arsenic	23	.41	31.5 J+	57.0 U	35.3 J	41.7 J	34.1 J	45.3 J	13.3 J	14.2 J	27.3 J
Barium	5,500	9.5	94.2 J+	317 U	342 J ★	424 J ★	210 J	559 J ★	123 J	79.3 J	261 J
Beryllium	160	2.7	1.4 J+	0.82 U	0.68 U	0.78 U	0.72 U	1.0 UJ	0.87 U	0.75 J+	0.89 J+
Cadmium	39	.68	10.4 J	0.82 U	1.4 J	0.83 J	0.72 U	1.0 UJ	0.87 U	0.97 J	2 J
Calcium	-	-	1990	822 U	1,040	934	1,010	1,100	1810	2050	2010
Chromium	230	4.1	8	4.8	5.7	5.2	6.4	6.6	4.7	6.9	5.6
Cobalt	-	-	20.5	3.6 J	4.8 J	3.8 J	4.3 J	3.9 J	5.4 J	11 J	12.3 J
Copper	-	-	1240 J+	41.8 J	98.6 J	42.7 J	53.0 J	48.7 J	91.4 J	201 J	167 J
Iron	-	-	71200	88,900	62,200	71,700	68,800	78,100	44300	26000	58100
Lead	-	-	1480 J	541	306	394	322	459	366	187	734
Magnesium	-	-	11500	2,180	2,760	2,440	4,000	2,020	6000	2720	4270
Manganese	11,000	190	6600	436	580	421	506	333	1440	1160	2710
Nickel	1,600	27	11.7 J	3.2 J	3.4 J	3.1 J	4.0 J	3.4 J	3.9 J	5.9 J	5.2 J
Potassium	-	-	642 J+	1,200 J+	1,090 J+	1,300 J+	889 J+	1,700 J+	865 U	674 U	1260 J+
Selenium	390	6.8	3 U	1.4 J	1.0 J	1.5 J	0.81 J	1.6 J	0.51 J	0.45 J	0.52 J
Silver	390	6.8	1.2 J	2.1 J+	1.4 J+	2.4 J+	2.5 J+	4.5 J+	1.2 J+	0.67 U	2.8 J+
Sodium	-	-	600 UJ	822 U	676 U	781 U	723 U	1,040 U	865 U	674 U	814 U
Thallium	-	-	0.44 J- (0.82)	0.82 U	0.68 U	0.78 U	0.72 U	1.0 U	0.87 U	0.67 U	0.81 U
Vanadium	5,500	9.5	40.9	48.6	42.3	40.7	44.8	49.7	25.8	36.1	41.1
Zinc	23,000	410	1500 J	153 J	360 J	197 J	199 J	205 J	241 J	289 J	447 J

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